



THE UNIVERSITY *of* EDINBURGH

Edinburgh Research Explorer

Digital Spaces for Learning and Assessment in Art and Design

Citation for published version:

Cordiner, S, Pirie, I & Triggs, J 2011, Digital Spaces for Learning and Assessment in Art and Design. in SS Weiss & O Kelly (eds), *Future Learning Spaces: Designs on eLearning*. ART+DESIGN+ARCHTECTURE 2/2012, Aalto University, Helsinki, pp. 43-67.

Link:

[Link to publication record in Edinburgh Research Explorer](#)

Document Version:

Publisher's PDF, also known as Version of record

Published In:

Future Learning Spaces

Publisher Rights Statement:

© Cordiner, S., Pirie, I., & Triggs, J. (2011). Digital Spaces for Learning and Assessment in Art and Design. In Designs on eLearning. Helsinki.

General rights

Copyright for the publications made accessible via the Edinburgh Research Explorer is retained by the author(s) and / or other copyright owners and it is a condition of accessing these publications that users recognise and abide by the legal requirements associated with these rights.

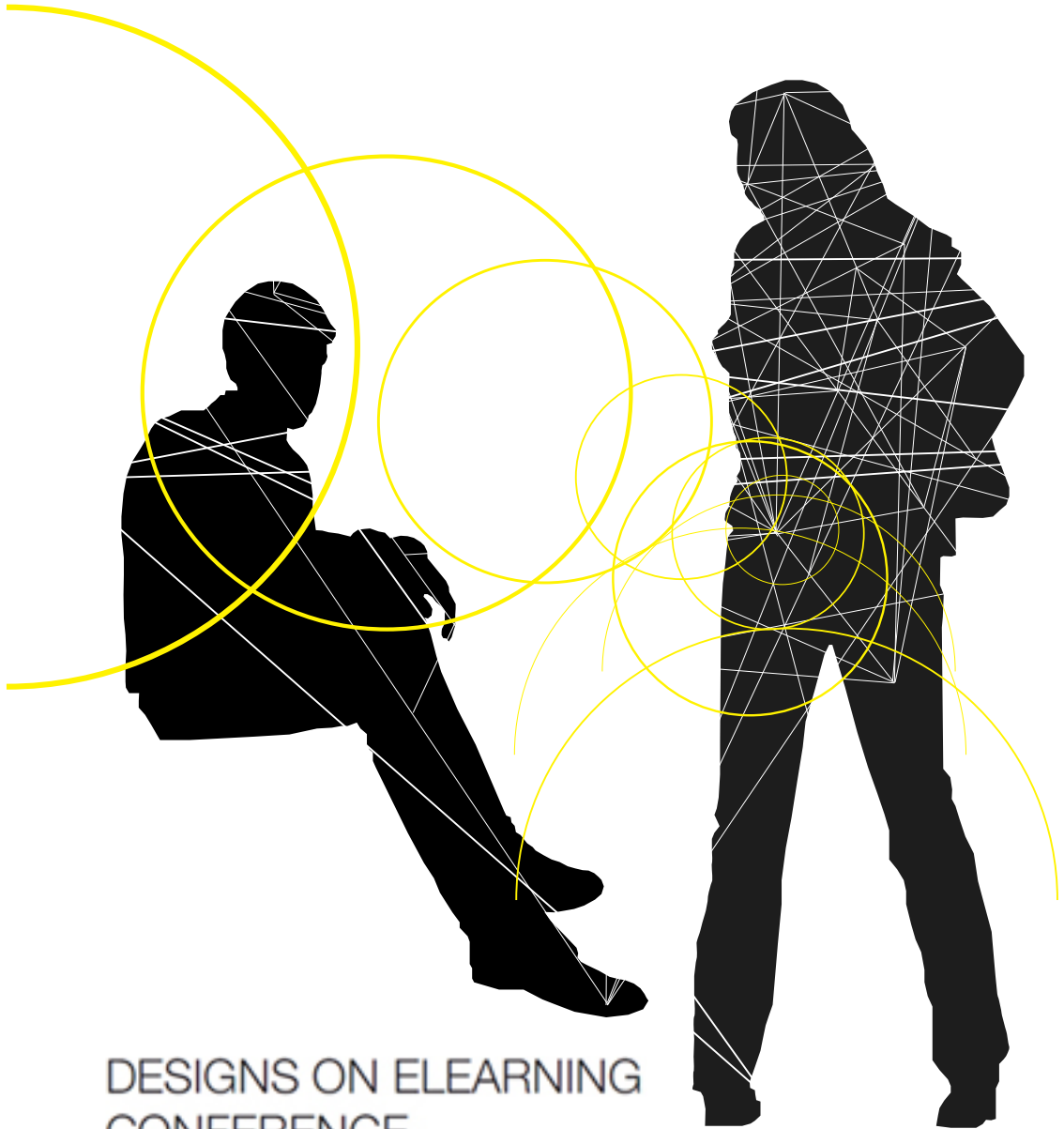
Take down policy

The University of Edinburgh has made every reasonable effort to ensure that Edinburgh Research Explorer content complies with UK legislation. If you believe that the public display of this file breaches copyright please contact openaccess@ed.ac.uk providing details, and we will remove access to the work immediately and investigate your claim.



Stefan Sonvilla-Weiss & Owen Kelly (eds.)

future learning spaces



DESIGNS ON ELEARNING
CONFERENCE
PROCEEDINGS 2011

Stefan Sonvilla Weiss & Owen Kelly (eds)

FUTURE LEARNING SPACES

papers and presentations from

DESIGNS ON E-LEARNING 2011

hosted by

The School of Art, Design and Architecture,

Aalto University

Helsinki

Aalto University publications series

ART+DESIGN+ARCHTECTURE 2/2012

ISSN 1799-4861

ISBN 978-952-60-4517-7 (pdf)

© Authors (see below), and Aalto University School of Arts, Design and Architecture
Department of Art 2012

E-book cover illustration and design: Stefan Sonvilla-Weiss

Interior design and layout: Owen Kelly

Conference front of house: Jennifer Ramirez Saldarriaga

Conference streaming and technical co-ordination: Jari Manninen

Conference catering: Milla Richt at Soupster

Aalto University

School of Art and Design

P.O. Box 31000

FI-00076 AALTO

FINLAND

arts.aalto.fi



The essays and presentations collected here are all licensed under the Creative Commons Attribution-NonCommercial-NoDerivs 3.0 Unported License, except where explicitly stated.

To view a copy of this license, visit <http://creativecommons.org/licenses/by-nc-nd/3.0/> or send a letter to Creative Commons, 444 Castro Street, Suite 900, Mountain View, California, 94041, USA.

Digital Spaces for Learning and Assessment in Art and Design

Ian Pirie, Stewart Cordiner and Jenny Triggs

ABSTRACT

Assessment and feedback in all subjects remains a key challenge for educators and none more so than in the visually creative disciplines. National student surveys consistently indicate student dissatisfaction with this aspect of their education regardless of their engagement and enjoyment with almost everything else.

Edinburgh College of Art recently redesigned its approach to assessment and feedback. A grade-based scheme, fully constructively aligned to learning outcomes, was implemented using formative assessment and student self-evaluations to enhance learning and understanding of their progress.

In 2010 a digital environment was designed to support these pedagogical principles and philosophies and provides a digital space for students and tutors to engage, develop, record, inform and validate the learning, progress and assessment. Substantive amounts of information have been generated, revealing how our approach is impacting positively on the student experience and in changing perceptions on the purpose of assessment.

Evidence indicates improvements in: self-critical reflection, accuracy in graded self-evaluation and participation in assessment. Now, following critical discourse, students have a central role in formulating their own feedback and future actions, and the benefits of this shared-responsibility partnership model are becoming clear.

Designing an appropriate online digital space to support studio pedagogy has enabled assessment to enhance learning. The paper reveals the journey and explores and proposes new scenarios on how the use of digital spaces can further change the ownership, purpose and use of assessment to the benefit of students while assuring overall quality and standards for the institution.

Keywords: Assessment, Feedback, Art, Design, Online Learning Management, Mutually Constructed Feedback

INTRODUCTION

There is substantial evidence in the literature that both formative assessment and feedback are considered helpful to students and are regarded by many educators as central to their students' ability to learn effectively (Black, Wiliam 1998) et.al.

The Art and Design pedagogy is well suited to continuous formative assessment and feedback given its iterative nature and constructivist approaches. Yet students studying Art and Design remain largely dissatisfied with the frequency, quality and effectiveness of the feedback they receive and this is often compounded by the lack of clarity and understanding in how they are assessed.

This of course is not limited to students of Art and Design and is a major issue across the higher education sector more generally, but given the nature of the education and student experience in Art Colleges - often consisting of small groups, one-to-one tuition / tutorials, frequent critiques and presentations with peer interactions, learning through iterative practice, predicated on projects and themes of enquiry, highly personalised and student centred - it is all the more remarkable that this problem nonetheless remains. This paradox is explored fully in *'I can't believe it's not better': The Paradox of NSS scores for Art & Design* by David Vaughan and Mantz York which seeks to understand the underlying issues of students' dissatisfaction in an otherwise, some would regard, idyllic educational environment.

Evidence suggests that the lack of transparency and understanding of assessment criteria, misunderstandings of the purpose and what constitutes feedback from a student's perspective is a key factor, as is a perceived lack of course organisation and management; the latter as a result of creating freedom within highly individualised programmes of study - *'There was also a common concern that the pedagogy of Art & Design could mean that the more a student has creative freedom the more they are likely to experience what they believe to be a failure of Organisation & Management'* (Vaughan, Yorke 2009)

Dissatisfaction with assessment and feedback are two interrelated issues that Edinburgh College of Art (ECA) sought to address as part of a strategic review and redesign of its approach to assessment, feedback and curriculum description. This was subsequently followed by the development and implementation of a purpose-designed learning management system to provide organisation and structure around each programme of study, and an individual and personalised digital space for each student while maintaining flexibility, the aim being to support the face-to-face 'creative' pedagogy while providing an organised framework and private space to facilitate tutor and student discourse, create and record tutorials, feedback and assessment.

The paper outlines the aims of the assessment scheme, new approaches to feedback, its subsequent impact for students and staff, the development and implementation of a dedicated learning management system (LMS) to further enhance the effectiveness of the approach and, based upon analysis of the LMS data, proposes the principles and types of characteristics and attributes that need to be present for students to fully understand and value assessment and feedback as an effective and integral part of their learning.

WHY DO WE BOTHER ASSESSING ANYTHING AT ALL?

The following is an extract from the Edinburgh College of Art assessment handbook that outlines six reasons why assessment probably needs to exist within an academic institution where there is both an internal and external requirement to demonstrate explicitly that standards are being achieved, maintained and quality assured.

For Students:

- to provide feedback to the student regarding their progress and to support and guide their further learning;
- to describe student attainment and inform decisions on progression and awards.

For Staff:

- to determine that the intended learning outcomes of the programmes are being achieved and how well;
- to inform programme design and further curriculum development.

For the College:

- to demonstrate to external agencies that quality standards are being assured and maintained;
- to demonstrate that the College is achieving its particular mission.

Most Universities could reasonably assume, and most likely evidence, that they are successfully achieving numbers two to six but arguably students are most concerned with number one. If the prime reasons for assessing students are to satisfy the requirements of staff, the institution and external agencies, this would support the view that the type of assessment models most commonly used are primarily designed to test and measure the standards achieved by a cohort of students at the end of a period of learning and are for the benefit of others rather than to benefit the student during their learning.

Feedback from students in course evaluations, focus groups and student surveys indicates that clarity in understanding how they are assessed and receiving high-quality, timely, feedback is a key issue and is largely driven by a simple desire to know ‘how am I progressing?’ and ‘how can I improve my work?’ Although Art and Design students, like many other students, aspire to achieve high grades (this is of particular importance at the honours classification level), by the nature of their study they are primarily driven to improve upon their artistic and design work and, if assessment is to be used as a productive tool for learning, then something needs to change.

The literature clearly demonstrates that there is an overwhelming body of evidence to suggest that something is not right, yet conventional approaches to assessment are all too common. The Objectivist approach (rather than Constructivist approach) described

by Biggs in 1996 as the dominant theory in use and one which led to assessment being primarily concerned with quantitative measurement is still very much in evidence in 2011 (Biggs 1996), regardless of the fact that a substantive body of research indicates that this approach to assessment design encourages superficial and surface approaches to learning (Watkins, Dahlin et al. 2005) et.al.

This model, however, was never appropriate or relevant for assessment in Art and Design and, although assessment in these subjects is regarded as being robust within the field and can provide the evidence to satisfy the requirements of the institutional measures identified above, it is frequently 'opaque' and a 'bit of a mystery' to students and often fails to capitalise on the iterative nature of the pedagogy which arguably lends itself better to a continuous formative assessment and feedback model.

The theories of the Constructivist approach are ideally suited to describing the learning models in Art and Design disciplines, in that much of the knowledge is developed and constructed through iterative practice as explored and described by Kolb (Kolb 1984). It is simply impossible for students to study only the theories, context and history of an art or design discipline if they wish to emerge as practitioner in that field. Students studying art and design frequently produce large amounts of material in the form of theoretical, historical and visual research, concepts and ideas all made manifest in many forms and in multiple media (e.g. drawings, written texts, photographs, videos, models, prototypes, digital media), as well as through completed and resolved art or design work created using a wide range of materials and processes, and their developing knowledge is almost always applied and tested within a real or simulated professional context. It should therefore be relatively straightforward to develop a model of assessment and feedback to both help students learn during the learning process itself and to assess and measure the standards achieved at the end of a cycle of learning - but alas not so!

WHY ASSESSMENT NEEDS TO CHANGE

In developing a new approach to assessment at ECA a number of guiding principles were already in place. The Scottish higher education sector introduced a credit and qualifications framework in 2000 (Scottish Credit and Qualifications Framework 2000) and this had already established a number of core attributes, described under five broad headings of learning, that institutions were encouraged to incorporate and make explicit within their course and programme descriptions. The framework is also predicated on levels of learning and a learning outcomes approach. This provided the College with a contextual framework to review what was actually being assessed and in particular the relationship between what was being taught, the learning outcomes as described and how these were written, as well as the assessment practices themselves. It was clear that staff across the disciplines knew exactly what they were assessing and the consistency and rigour in the team-based approaches with subsequent moderation ensured robustness and fairness in the assessment process. What was less clear and not at all explicit was the relationship between the assessment, what was being taught and learned and the

learning outcomes that students were expected to achieve. Also, despite the many opportunities to provide formative assessment throughout a level of study, this rarely occurred in a formal way and, as is customary in many undergraduate art and design programmes, the summative assessment took place at the end of the level of study, at ECA after thirty weeks.

The revised assessment scheme was developed with significant involvement from staff across the College with key inputs from the Heads / Associate Heads of Schools, the Programme / Award Leaders and the College Quality Officers / Academic Registry. What emerged from the discussions was a set of key attributes and principles that staff believed would lead to a simplified approach to assessment that would be both desirable and manageable in practice. Of prime importance was to both clarify and make explicit to students what was being assessed (and how) and to move to a position of productively using formative assessment as an integral part of learning and not something that students feel happens to them, but rather something that they can feel part of. For example, a great deal of time and effort is expended by students preparing their visual and written work to present or exhibit for assessment. Under previous systems students were then required to leave, and at some later point, a pass or fail and associated grade emerged; this approach simply compounds the ‘mystery’ of what goes on behind closed doors in the assessment studio and students naturally feel excluded from this part of the process.

One of the key principles that was established is that what is being assessed is the learning and that the ‘body of work’ (in what ever form) is the vehicle by which the student evidences whether they have achieved the learning outcome(s) required and to what standard. This was and is of paramount importance in the context of Art and Design in that the art or design work itself is not being assessed directly but is ‘the means by which’ the student (the learning evidenced and standards achieved) is being assessed. This change is a fundamental shift that aims to help students understand what is actually being assessed, and that it is not the subjective ‘likes or dislikes’ of their tutor(s) that determines the outcome. An equally important principle was to try to involve students directly in assessment wherever possible to develop a shared-responsibility and partnership model of learning; this is explored more fully in the potential of the LMS to facilitate ‘mutually constructed feedback and actions’.

The following key principles now provide the foundation for the assessment and feedback scheme at ECA:

- assessment tasks are constructively aligned to the learning outcomes
- all learning outcomes are graded independently to create an assessment profile
- a letter-based grade scheme is used to provide clarity of achievement
- all learning outcomes must be achieved
- aggregation cannot compensate for failed learning outcomes
- staff provide formative grades and written formative feedback for all assessed tasks

- students self-evaluate and grade themselves throughout
- students are required to reflect upon and contribute to writing their own feedback and action points.

The Schools of Painting and Architecture ran the evaluation pilot in 2007-08 and the scheme was implemented fully in session 2008-09. An early success identified during the pilot was the accuracy of the students' graded self-evaluations. At the mid-year assessment review in the School of Painting over 80% of the students achieved a direct correlation with their tutors' assessment of their work; tutors were not aware of the students' self-evaluation grades until after they had completed their own assessments.

The following aims and assessment principles were subsequently established and embedded within the College regulations and made explicit to students and staff in the Assessment Handbook which outlines the philosophy and guiding principles of the new approach.

EXTRACT:

Academic Regulations: D1 Assessment Handbook Approved by Academic Council 14-09-09 updated

This assessment handbook has been developed primarily for students and staff of the College and aims to assist in achieving the following:

- to help make assessment and the assessment process understandable, explicit and transparent;*
- to create a consistent approach to assessment practices across eca;*
- to promote and embed the use of assessment as an integral part of learning;*
- to ensure that the quality and standards of awards are maintained.*

Principles of Good Assessment Practice

2.2 In order to achieve these purposes, the following principles inform and are embedded in the conduct of assessment at the College:

- Students receive regular formative feedback on their progress which is related directly to the published learning outcomes in their Module Descriptors and in their coursework material, such as project briefs and individual programmes of study;*
- Students receive a minimum number of written tutorial feedback/ crit reviews per stage and the written feedback is directly related to the published learning outcomes, as referred*

to above;

- III. *The grading of student work is undertaken with close reference to the published learning outcomes and assessment criteria, for the Module Descriptor and for the particular piece(s) of work being assessed;*
 - IV. *The method of assessment used is appropriate to the learning outcome(s) being assessed and the student's performance for each individual learning outcome can be effectively examined and graded where a single method of assessment is used to examine more than one learning outcome;*
 - V. *Students are made fully aware of how they are being assessed, what is being assessed and against the published criteria.*
- 2.3 *The assessed elements throughout each Level ensure that the generic competencies, as described and required in the Scottish Credit and Qualifications Framework (SCQF), have been successfully achieved prior to progression to the next stage.*
- 2.4 *Assessment should generate valuable student learning activity and work which both students and staff value.*

Good assessment practice should mean that it is perfectly possible to explain to students, staff and external agencies what is actually being assessed. This was a key issue (and a challenge) in the context of Art and Design education where, as indicated previously, staff knew exactly what they were assessing but found difficulty in making this explicit to students in an accessible and understandable form. Confusion can exist when there is a lack of clarity between subjectively measuring the perceived quality of an artefact and objectively measuring the learning outcome being assessed; a key aim was to help students understand this.

The developments in assessment at the College were founded on experience of what was not proving successful (for the students) and therefore needed to change, but was also informed by the mounting research evidence of what is deemed good and/or desirable practice. Art and Design education (for the most part) uses approaches in learning that engenders 'deep' learning. There is substantive evidence that our graduates possess the types of key skills and attributes that are highly desired by employers and necessary for the graduates to survive and flourish as successful artists and designers. What was or is missing in the pedagogical approach is the direct use of assessment to inform and enhance further learning. If a new approach could be successfully embedded that required the student to participate fully in the assessment and feedback process (to the extent of self-assessing, writing their own feedback, reflecting upon this and developing subsequent actions), the hypothesis is that this would enhance their satisfaction, increase their understanding, accelerate their learning and consequently raise standards.

In this facilitated learning model students and staff have a genuinely shared respon-

sibility for the quality of the learning experience. There would be no action without a consequence. As an example, where a student requested a tutorial there would be a joint responsibility to mutually record, construct the feedback/feed-forward and identified course of subsequent actions. The student would be responsible for 'writing-up' their own tutorial report, and the tutor for confirming its accuracy and understanding. Receiving feedback would no longer be a passive activity with which students could choose to engage. Neither student nor staff could be exempt from their partnership responsibility and although tutors would still be required to record their tutorial discussions, more emphasis could be placed on the tutor validating that the student has fully understood what was said to them.

WHAT MIGHT MAKE A DIFFERENCE?

For this facilitated and supportive model of feedback to work, the characteristics, attributes and philosophy of the approach must be fully understood by both staff and students and subsequently adhered to; in practice this requires a significant culture shift and 'buy-in' from all staff and participative induction for students as an integral part of their learning.

The extrapolation of the 'constructive alignment' model means that assessment must also, therefore, be 'constructivist' in approach and should include everything from the design of the curriculum, to learning outcomes, the learning and teaching methods and, importantly, the assessment methods (Rust, O'Donovan et al. 2005). When tutors are designing projects/tasks they do so mindful of expecting their students to begin developing their abilities to research, collate, analyse, synthesise, select, interpret and develop unique, novel and/or innovative solutions to the problem, opportunity or theme of enquiry explored. Tutors are then disappointed if their students develop ordinary, 'tired' or obvious solutions to a given task or exploration and would deem the project/learning experience (and its design) unsuccessful.

This is unusual for most other subjects, certainly at undergraduate level, and poses a particular challenge for making assessment criteria both explicit and useful to learning. This requirement from level one for students to be innovative, original, think laterally, take risks, get things wrong, before beginning to consistently develop highly-personalised and often unique and original qualities in their work is a highly-prized characteristic of education in art and design. The approach to assessment and feedback needs, therefore, to be designed to support this frequently 'erratic' journey without students perceiving assessment as a barrier, a hurdle or a punitive or negative experience. In an art or design context fear of failure in assessment inevitably leads to students 'playing-safe', requests to tutors of 'what do I need to do to pass?' and, ultimately, to superficial learning which is precisely the opposite of what the tutors wish.

'The only person that understands the learning outcome is the person that wrote it', Susan Orr (2010)

Clarity in the writing of learning outcomes and their associated and explicit assessment criteria to support a framework where creativity can flourish then becomes paramount. This, however, can only be achieved once it has been established what is actually being assessed. Given the diversity of output expected from students, and the approach of not assessing art or design output directly but instead assessing how students have evidenced their learning, clarity in the description of learning outcomes becomes a critical component of the overall assessment scheme. The mutual understanding of learning outcomes continues to be a challenge and led to the thinking that mutual understanding of the feedback was also far more important to the student (and tutors) than the giving or receiving of it.

‘Assessment and feedback practices should be designed to enable students to become self-regulated learners, able to monitor and evaluate the quality and impact of their own work and that of others.’, David Nicol (2010)

Despite the ECA assessment and feedback model now containing many of the desirable principles and characteristics identified in the literature, many students still maintain that they do not quite understand how they are assessed and that the feedback is still not helping them in the way they think it should (Nicol 2010a). It is clear from the evidence gathered that for feedback to be really helpful to a student it is not enough for them to receive it timeously, but that they also have to be engaged with it and, most importantly, understand it. One way to achieve this is for students to ‘write-up’ and record their own understanding of the feedback given in response to critique and tutorial discourse; to reflect upon this discourse and formulate their own subsequent/consequent actions in addition to those recommended by their tutor. The tutor’s responsibility is to stimulate the discussion, provide their feedback, and to ‘write-up’ and record what was said to the student succinctly. Subsequently, the tutor validates the accuracy and understanding (or lack) of the student’s version of the feedback record. Where it is clear that the student has not fully understood what was meant, additional tutorials and guidance can be put in place.

Students are quite clear that they highly value the interactions with both their tutors and peers. It is commonplace in art and design education to require students to routinely present their work at different stages of development and in particular at the end of a project or period of learning. The ‘crit’ often requires students to articulate, justify and ‘defend’ the decisions they have made in the execution of their work and these interactions are considered to be valuable learning experiences by both students and tutors (Horton 2007). Evidence suggests that the next stage of learning should not, however, be to move straight on to the next project/assignment but should be a ‘deconstructing’ of the learning that has just occurred and ideally a period of ‘facilitated reflection’ prior to commencing the next project/assignment (Kolb 1984).

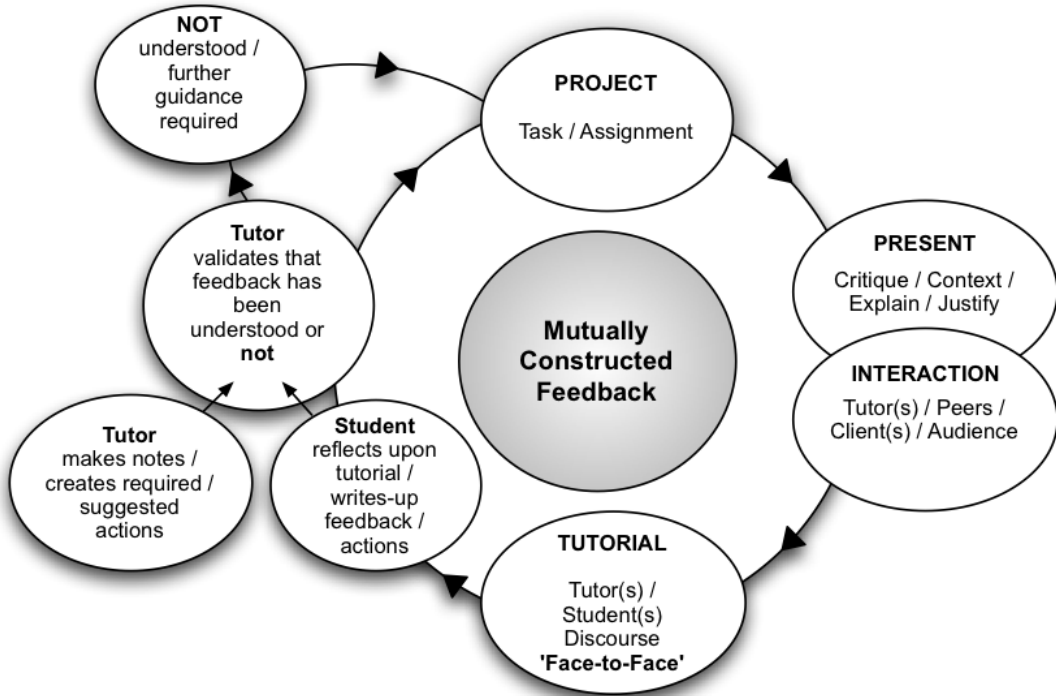


Figure 1. - Mutually Constructed Feedback

The difference from traditional approaches to providing feedback which is proposed in the model shown as (fig. 1) is that there is a mutual responsibility for creating the feedback and the next set of actions. Once the student(s) and tutor(s) have held the tutorial, both parties are responsible for reflecting, recording and writing up their notes. Both the tutor and student should develop and agree the suggested/required actions. To make certain that the learning experience has been effective there is a further stage for the tutor, and that is to validate each student's record of their feedback to ensure they have understood and made sense of what was discussed and what is now required.

Although feasible, managing such interactions through a paper-based approach is likely to fail and it is with this in mind, along with the necessary attributes and challenges outlined above, that a purpose-designed and dedicated learning management system was developed with the potential to facilitate these types of approaches for generating and recording useful, high-quality re-usable information around feedback and assessment for each student and their tutors.

WHY ONLINE?

Any assessment scheme relies on the accurate recording and distribution of information in order to fulfil the purposes described previously. Historically this has meant

paper-based pro-formas of various kinds to gather data for inputting into systems. These pro-formas have to be designed, duplicated and distributed for use; completed and authenticated; then collected and returned for data collation, entry and archiving. Their conversion from word-processed or spread-sheet files to physical paper, then back again to database or spread-sheet data on local or central systems is fraught with the potential for error. At best, administrative staff might pre-populate the forms with student data using mail-merge or similar, and email the files, sensibly-named, for digital completion and printing by staff; at worst, blank pro-formas requiring photocopying and manual completion are distributed.

Photocopying would also inevitably come into it somewhere, with all the concomitant quality, confidentiality and cost issues. Having redesigned its approach to assessment and feedback, Edinburgh College of Art (ECA) implemented a grade-based scheme, fully constructively aligned to learning outcomes, using paper pro-formas to gather student self-evaluations, and deliver formative assessment and feedback. For any paper-based scheme which attempts to improve the frequency and/or quality of feedback, the sheer volume of paper required for each assessment comes at a considerable material and logistical cost to students, staff and administrators, and militates against frequent use. The cumulative total after a single academic session at ECA was substantial and space-consuming, and apart from final marks or grades, any gathered qualitative information was rarely referred to due to the difficulty of accessing it. While learning outcomes and assessment criteria were more explicit and visible, students struggled to understand them or their relationship to the work they had produced, so the impact of the scheme was compromised.

It became obvious that the way ahead was fully digital, but the ‘off-the-shelf’ VLE in use at the time was not popular with staff or students and its use was limited to the more ‘theoretical’ areas, where lecture and assignment information was delivered and mainly used in a ‘digital filing cabinet’ mode, but no assessment or feedback. Students were also expressing dissatisfaction with communication in general. Confusion existed between different sources of information: email, VLE, a rather user-unfriendly student portal, a website and various noticeboards.

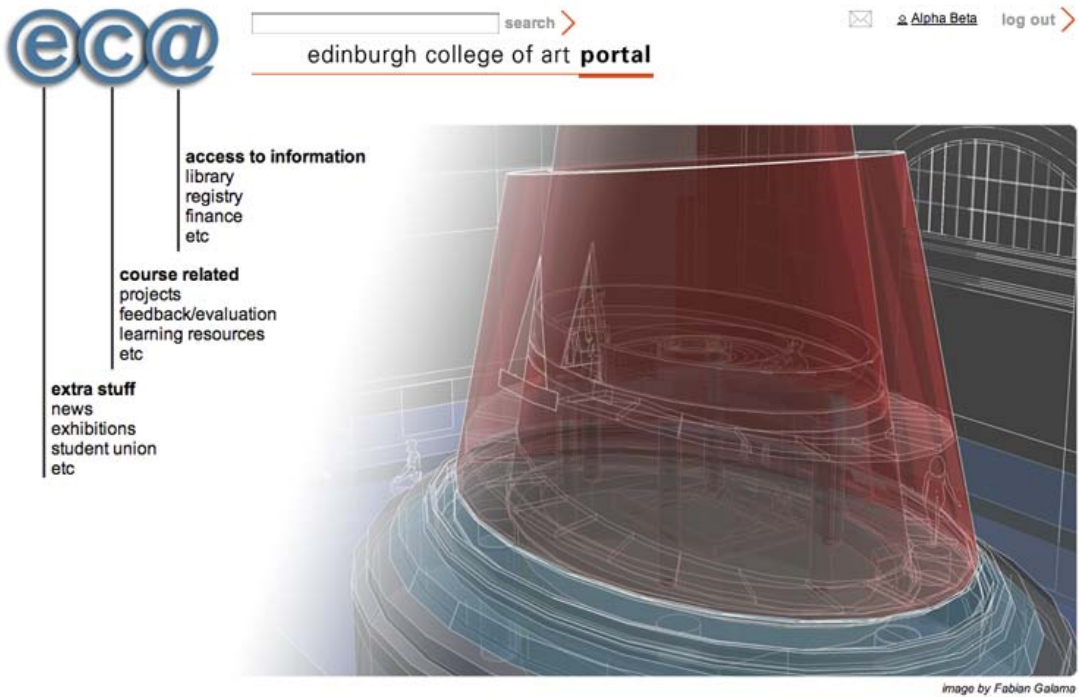


Figure 2. - ECA Portal

The decision was taken to develop a bespoke integrated communications system, using central data sources to personalise information and to ensure accuracy and currency, and to include a Learning Management System to facilitate and enhance the delivery and assessment of student work, both practical and theoretical (Hatzia Apostolou, Paraskakis 2010). This was not to be a 'Virtual Learning Environment', but a support mechanism for the real learning environment of the studio, workshop and lecture theatre. At the same time, an attempt was made to agree protocols for the delivery of different kinds of information, with the specific aim of cutting down on duplication, improving 'targeting' and personalising of information, and encouraging a more proactive approach to information acquisition, rather than the passive and unstructured 'receiving' mode exemplified by email. This 'proactive engagement' concept became one of the underlying principles for the development. (Rust, O'Donovan et al. 2005)

In consideration of the heightened visual sensitivity of the art and design target community, great care was taken in the design of the system, both visually and functionally. The overall navigation structure and all the interface elements and workflows were designed and built as 'click-through' models by an experienced graphic design academic. This allowed basic user testing, before being translated into fully functioning web tools by the development team, and connected to the relevant data sources. This mutually respectful methodology proved invaluable in the agile initial development and its subsequent modification in response to user feedback.

The project or assignment (the usual medium for the delivery and assessment of practical studio work across the art and design sector) forms a crucial element of the system. (Lee 2009) As a result of its connections to central data sources, the system allows staff to use a project framework to deliver instructions, specifications and resources, together with schedule, learning outcome(s) and assessment information, to specific students, as shown in the diagram (Fig 3.) below:

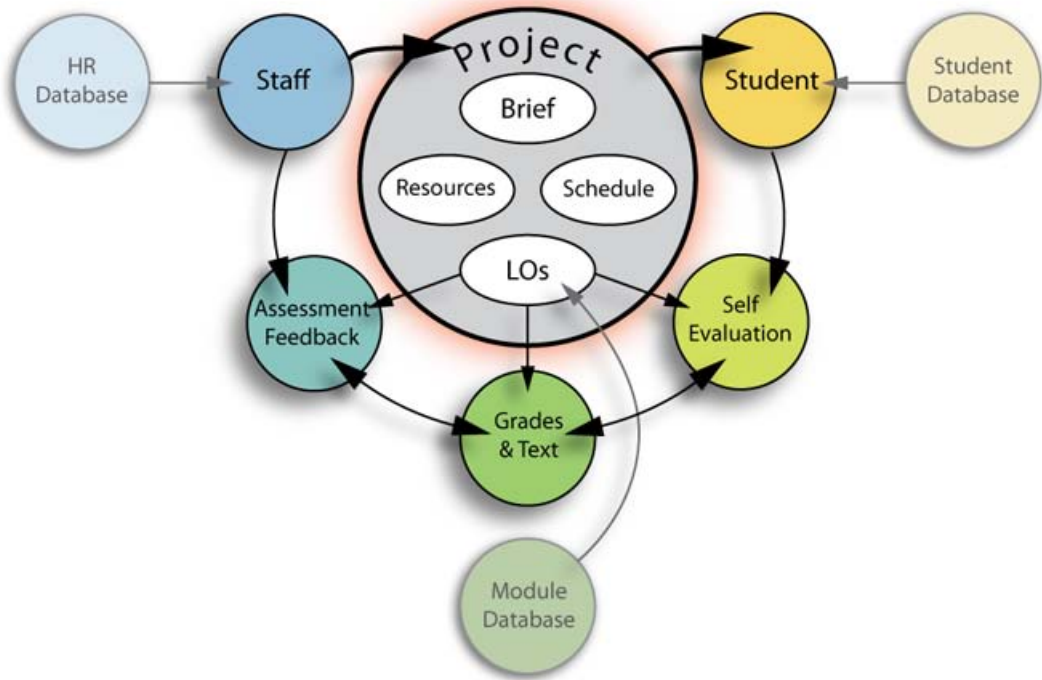


Figure 3. - The Anatomy of a Project and its Relationship to Central Data Sources

The system also allows students to provide a reflective evaluation of their performance in the project, by grading themselves against the associated learning outcomes and by using free text; similarly, staff assessment grades and feedback information is recorded. The design of the interface allows both parties to see their respective grades and comments side-by-side, accumulating over time to form a profile of achievement. The ability to easily revisit the performance history and related feedback, from anywhere at any time, is a key benefit of an online solution.

Some 'behaviour reinforcement' approaches were deployed: the agreement that projects could only be delivered through the system (no paper versions were to be used), maximising instant 'buy-in' across the College and that students would only be able to see their feedback after they had provided their self-evaluation, encouraging active participation and engagement in the assessment process. (Rust, O'Donovan et al. 2005) (Nicol 2010b)

HOW IT WORKS

Upon login, the system authenticates the user and presents them with personalised information according to their profile; staff and students have a similar overall view and navigation structure, but a different set of tools. Staff can build projects or assignments for their students using a tabbed editor interface, with each tab dealing with a specific component of the project - students, learning outcomes, brief, schedule, resources, staff - presented in a logical order.

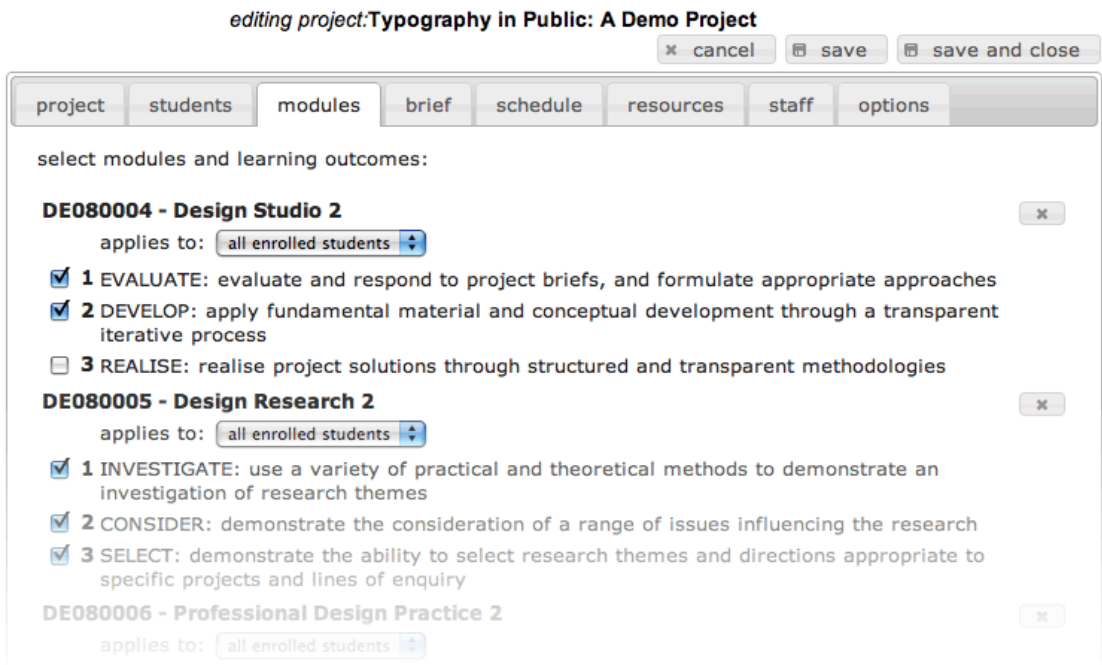


Figure 4. - Project Editor

Choices made in one tab can affect the content of a subsequent tab. For instance, setting the start and finish dates of the project generates a calendar encompassing those dates, onto which specific events can be mapped, complete with text giving instructions, descriptions, locations, times, etc., thus providing the student with a detailed schedule for the duration of the project and a sense of what will be involved. Student, staff, learning outcome and resource information is selected from central data sources, ensuring accuracy and currency, and a standard text editor is used for compiling and formatting the text of the brief - requirements, guidelines, submission of work, etc. Apart from the start and finish dates, two other important dates are added to each project: the 'release' date and the 'self-evaluation' date. Prior to the release date, staff can work on designing and creating projects/assignments at any time in advance, in partnership with colleagues if they wish, saving as they go. Only when the project 'release' date is reached will it appear

in the project list of the students who have been targeted.

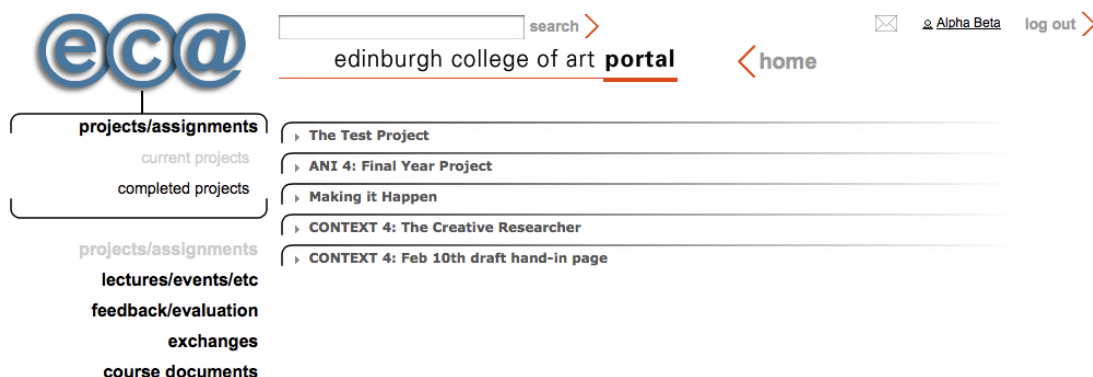


Figure 5. - Student's personal project view

Even without the assessment and feedback features, the use of this system to design, compile Figure 5. - Student's personal project view

and deliver project and assignment information ensures consistency and removes the risk of bits of paper being lost or suffering from perennial photocopying. The information is available to the student at any time from anywhere, and it begins to build a detailed record of the curriculum.

The self-evaluation date, usually just before the end of the project, begins the assessment dialogue for which the student shares responsibility with the staff. (Nicol, Macfarlane-Dick 2006) To enable self-evaluation, a single-screen interface presents the student with two text boxes: one to enter comments on their performance in the project and one to enter comments on the project itself. (This latter box can provide good information for staff for subsequent curriculum modifications or, for example, alert them to physical resource problems.) Next, the learning outcomes that are being assessed by the project are presented as a series of radio buttons, one for each grade letter, which the student uses to grade their performance. Documents can be uploaded and, in the case of visual studio projects, five images of the work. (The images are not intended for assessment purposes and are just an aide-mémoire for subsequent reference.) The student does not have to complete this process all at once, but can save as they go, submitting when they are done.

After the actual project work has been assessed by staff, a similar interface allows them to see the uploaded documents and images, and the student's comments (assuming they have been submitted), but not their grades. In the interests of neutrality and to remove possible influence, the initial setup of the system did not show staff any student data apart from the uploads, but this was changed in response to student feedback; the student comments below show that they correctly identified the resulting lack of aligned dialogue. The screen also provides a text box for feedback comments and a set of radio

buttons to record their assessment of the learning outcomes. Once all the students have been assessed and feedback ‘written-up’, the information is released to them all simultaneously; any students who have not submitted a self-evaluation will not see their feedback until they submit. The system then presents a ‘side-by-side’ view showing both student and staff comments and grades together, useful for subsequent ‘face-to-face’ discussions.

ion < back to list

on **project feedback: Typography in Public: A Demo Project**

ick For a full description of each learning outcome, hover your pointer over its number, (LO1, LO2, etc).

ory **self-evaluation: grades**

ds **Design Studio 2**

	A**	A*	A	B	C	D	E	F
LO 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
LO 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
LO 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Design Research 2

	A**	A*	A	B	C	D	E	F
LO 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
LO 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
LO 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Professional Design Practice 2

	A**	A*	A	B	C	D	E	F
LO 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
LO 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
LO 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

PERFORMANCE:

I developed a website to use as a digital portfolio to collate all of my visual images and web resources. I think didn't communicate my ideas well in the presentation but have a better understanding of how I develop my ideas from my research

PROJECT:

I enjoyed the project. We had problems accessing the library in Evolution house after 6.00pm which was frustrating.

staff assessment: grades

Design Studio 2

	A**	A*	A	B	C	D	E	F	NS
LO 1	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
LO 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
LO 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Design Research 2

	A**	A*	A	B	C	D	E	F	NS
LO 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
LO 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
LO 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Professional Design Practice 2

	A**	A*	A	B	C	D	E	F	NS
LO 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
LO 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
LO 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

GENERAL:

The enquiry and visual research for the project was thorough and comprehensive and this provided you with a range of diverse sources to draw upon. The context of the research was less clear and this was evident when you presented your final solution to the group. I will arrange a tutorial to help you develop your understanding of research context.

document:

Figure 6. - Side-by-side post-assessment view

During such a discussion/tutorial the student is required to take notes, then use another feature of the system to generate a record of their understanding of what was said at the meeting. This record is submitted for checking to the tutors who were present at the discussion; if they are satisfied that the student has understood correctly, they can validate the record; if not they can add some clarifying/qualifying comments and if appropriate arrange for further guidance to be given; this feature was not implemented until late in the session. The student responses to the survey below, reflecting on the lack of this functionality reinforced our belief that this had to be an essential part of the

system, as it now is.

As a result of this, the student is fully involved along with the staff in the ‘mutually constructed’ assessment and feedback process: using the grading scheme and the learning outcomes in direct relation to their work; reflecting on their performance and the project itself; and compiling the record of ‘face-to-face’ feedback. This entire process is repeated several times during the academic session, depending on how many projects or assignments are undertaken, building a comprehensive profile of performance and written record of feedback and reflection over time.

A VALUABLE GENERATIVE SYSTEM

During the first academic session that the Learning Management System has been running in the School of Art and the School of Design, a very large volume of data has been generated and accumulated, almost as an unintended by-product. Since all the projects in these schools were delivered through the system, it is now possible to examine the entire curriculum for any given cohort. The thousands of student comments on the projects themselves and issues surrounding them provide important information on the potential for curriculum or environment improvements; the interchange of evaluative performance and feedback information between staff and students has generated invaluable reference data and a picture of the quality of communication from both staff and students is emerging.

Prior to the introduction of the system, and based on experience of the paper-based model that preceded it, doubt was expressed by some staff as to the likely level of participation by the students. This was unfounded. The character limit of 2000 was regularly reached and there were occasional calls for an increase. The benefits to the students of this word-limited additional analytical and critical writing, not about their subject but about their learning, should become evident at some point, however, the full analysis of this will only be possible after the system has been in operation for a few more sessions.

In contrast to the relatively high concordance between staff and students in the actual grades entered, it is revealing to examine the striking variations found in the texts in the student ‘performance’ and ‘project’ boxes, and the staff ‘feedback’ box. In terms of volume the content of each box varies from nothing, (yes, even from staff!) to the full character limit, with students frequently using the full amount. The variations in quality are almost as extreme, with some students failing to get beyond describing what they have done, and clearly not understanding the difference between the ‘performance’ and ‘project’ boxes, to others whose contributions are so perceptive and articulate that one would be tempted to hire them as tutors on the spot. More concerning is the variation in quality and style between staff. Here are a few examples:

1. 3rd Year Graphic Design Student - Performance:

I relied a lot on documenting this project though taking photographs, as I was aware from the start when making my object that it would be dissolved and essentially disappear. Bearing this quite daunting fact in mind, I made sure that I documented each stage of the making process as I went along. Visiting the “Another World” surrealist exhibition at the Dean Gallery opened up my imagination to the wide possibilities of the project as I was able to appreciate the vast range of surrealist work. When it came to researching dreams themselves, I looked to my own experience of dreaming and sleep and analysed particular aspects which interested me. I also researched dreams more generally by browsing the internet, with particular attention to the structure of how we dream. To broaden my ideas, I also picked some magazines from the library at random and found one which focused on embroidery to be particularly interesting. To understand the background of the Surrealist movement, I referred to books from the library. I think that I have communicated the development of my final object effectively by documenting each step as I went. I could perhaps have communicated my ideas and research in more depth, as there always seems to be more going on in my head than there is in my sketchbook. I think that I came up with a good range of final images which work individually or as part of a series. However, with hindsight I should have spent more time presenting the final adverts “in situ” to better communicate the campaign as a whole. This project did challenge my thinking, as it involved multiple layers – the background of surrealism, the requirement to create an object of some sort, bearing in mind that the final result would be photographic, and incorporating the channel 4 identity. However, “thinking” tends to be my favourite part of a project, so I enjoyed the challenge, and think that the conceptual aspect of this project was my strongest point. I also enjoyed the opportunity to incorporate my interest in using fabric and embroidery. If repeating this project, I would push myself to be finished at an earlier stage so that there was more time for fine tuning. I’m very happy with what I have achieved in this project and think that I can see an improvement in my work, however I know there is definitely room for improvement and hope to exceed my own expectations in my next project.

Student - Project/Assignment:

I particularly enjoyed the emphasis on conceptual thinking in this brief and enjoyed being actively encouraged to literally make something. The brief was very clear, and made it easy for me to break the project down into stages in my head. The project was just the right length - not too long, not too short and I think that any extra time that I would have liked to spend

could have been created by slightly different time management.

Staff:

Your work demonstrates your ability to initiate or respond to briefs. You are visualising and combining established concepts, often with sensitivity and maturity. Now you need to explore your ideas further and focus on their originality. Although you are trying different materials and techniques you need to challenge yourself more in this particular area, for example work at different scales or with different aspects of the concept. Try experimenting more with less regard to success or failure, expect to learn through a process of trial and error. From your work is clear to see that you get great satisfaction from the ideas and concepts you generate. Allow sufficient time at the end of projects to produce the final resolution, and ensure that this element isn't let down by your choice of materials or finishing skills. Ideas, concepts and directions which incorporate appropriate research are being explored and developed at the beginning of projects. You are questioning, analysing and annotating your work but you still need to broaden your research techniques. For the first 24 hours of a project resist from using the internet or library. Generate ideas based on your own knowledge first and then go and research them. To help you select the right idea to develop further in your studio work, you must first generate a more diverse range of concepts at the start of every project. Throw yourself a few challenges, and if necessary, bring three completely different ideas to initial pin-ups.

2. 4th Year Fashion Student - Performance:

I feel that there was a suitable amount of time given to us in order to complete the project.

Student - Project/Assignment:

I feel that the word amount given was appropriate.

Staff:

LO1: A large number of examples are discussed, but discussion of each is brief. Fewer examples, discussed in much greater detail and applying more than one critical source to help guide interpretation of the example would have helped to bring more rigour to the discussion. Missing narratives theories such as Barthes that may have helped provide framework for discussion.

LO2: A lot of time is devoted to describing the textile examples, rather than moving onto an analysis of how narrative on cloth may differ from text on paper. Narrative theory is used in a very limited way and much more could have been made of discussion of how narrative on cloth differs (both posi-

tive and negative) from other narrative strategies.

LO3: Must attribute information, such as the love stories in the V&A quilt to the source where you found this information. Referencing does not follow the Harvard format with large passages of information need to be much more clearly attributed to their original sources. Good structure. Lack of references could have been noted in intro, rather than mentioned late in paper, when it begins to feel a little like an excuse.

3. 1st Year Graphic Design Student - Performance:

During the studio stage of the Menagerie project, I not only combined my favourite aspects of my research and worked to a more practical artistic level; I changed the general idea of my piece entirely. Having settled assuredly on the theme of butterflies and portraying the four seasons within their wing patterns and textures, I instead decided to experiment along a route concerning a less sculptural and more linguistic idea. After discovering the words for the collective nouns of certain animals to be potentially humorous when drawn literally (for example, a 'coalition of cheetahs' or a 'band of coyotes'), I began to explore ways in which I could depict the creatures and their pun-inspired visual habitats. My time management here improved, because I became thoroughly engrossed by the intricate drawings and also used photocopying to save time and experiment with different techniques. I encountered problems here when applying paint onto a printed version of my drawing, but this helped me to conclude that I would work with colouring pencils when it came to the real final piece. An aspect of this stage that didn't go as well was when I realised that doing more than one final drawing would be almost impossible: having originally planned to do at least three as part of a sequence, I was forced to see that the detailed nature of my drawings would leave me only with the time to do one. Knowing this allowed me to pour effort into one eventual drawing, for which the composition, materials, characters and style had been effectively decided beforehand.

Student - Project/Assignment:

I appreciated the length of the brief because of the opportunity it provided for ample research, experimentation and creation of a worthy final piece. Having two weeks to experiment within studio space was helpful, but one disadvantage here was the lack of space within the studio to work. There were certain days where a desk was not available, which lessened the time that I could spend effectively working and developing my ideas.

Staff:

Matilda has started well with her sketch pad and info gathering.

4. 3rd Year Interior Design Student - Performance:

I am in all happy with my portfolio this year. I feel I could have taken more of an interest in the exhibition design but it is not a subject I particularly enjoy and tend to fall away from this. I am aware I will not always get the chance to choose a project and I need to work on self motivation for projects I'm not particularly interested in. I loved the section project this year, where I designed the extreme sport learning centre. I feel I responded to brief well and knew what I wanted to do from an early stage. my sketch-book work lacks and I am aware I need to improve dramatically on this, especially for fourth year work!

Student - Project/Assignment:

Staff:

final project the strongest out of the year, and shows real improvement

Variations of this sort undoubtedly existed when the assessment scheme was being delivered on paper, but because of the inaccessibility of the information, no action was taken to address it. The easy interrogation possible on the LMS presents us with an opportunity for further exploration and analysis, leading to more extensive development and explanation with both staff and students, not just about the system but the underlying pedagogical, assessment and feedback model it facilitates, and its relation to the 'face-to-face' world it is intended to support, not replace. Already an increase has been observed in the amount of informal discussion around assessment, feedback, learning outcomes, and our pedagogical practices in general following the introduction of the system.

THE SURVEYS

An online student survey about the portal, with specific sections on the LMS, was carried out and received 478 responses, about 25% of the total student population. From the survey response, the majority of students like the integrated Portal/LMS system finding it easier to manage information with everything in one place. Students using the system find the continuous access to a record of their grades and feedback useful. Having this information available online has clearly given students an additional mechanism to reflect on their progress and (mainly through reviewing staff feedback and grades) try to improve their performance:

"I can see it when I want. I use the information to see where I should improve. I like to be reminded of how I have done and compare what I think of my work to what the staff think."

1st year Product Design

“I used the feedback before I go into a new step/project or when I feel stuck or confused with my current work.”

2nd year Painting

“Having the feedback saved online is really helpful as you can go back at past comments to check progress and aim to improve upon it. It is also useful to see grades and comments in relation to the learning outcomes all in one place.”

4th year Textiles

A number of those students who do not currently use the LMS feedback and assessment system also expressed that, seeing its value, they are keen to do so.

Criticisms/concerns that emerged related to issues of ‘face-to-face’ feedback, self-assessment and staff/students dialogue. The feeling that online feedback should be supplementary to that supplied in person by staff is clear from the student survey response, as:

“feedback is more complex than just a written comment” (1st year UG Design) and online feedback, *“lacks the possibility of productive discussion and of deep understanding”* (2nd year UG Design). Although students found having access to previous feedback online useful as a record they could refer back to, there was a marked concern that this could mean staff had less time to offer feedback in person or that online feedback would supersede valuable face-to-face interaction with their tutors.

“It [online feedback] could be useful except that it seems to end up a poor substitute for actually having true feedback as in a verbal tutorial with the professor. I would prefer that it was used after the fact, that I have a tutorial and discuss with my tutor what I think about my project and then have the grades and comments posted so I can refer back to them.”

2nd year PG Design

Where students mentioned self-assessment, it was generally in a critical light. They did not understand the point of self-assessment, particularly as they did not feel that staff referred to their self-assessment comments or that they even looked at them, making it seem *‘like an exercise’* rather than an integral part of the assessment process. (The potential for its use to students in terms of the comparison of self and staff evaluation to gauge their progress has not, thus far, been communicated well to students.)

A number of students said they felt it was a flaw in the system that there was no a way of responding to staff comments/marks (by asking further questions etc.). It is likely that this has had an impact on students not seeing the LMS as a two-way dialogue (only 19% felt they were engaged in a constructive dialogue with their tutors through the LMS and the majority felt communication with their tutors was lacking on the LMS).

“I definitely do not feel that I am in a dialogue with my tutors - I was told that apparently the tutors can’t see my feedback and I can’t see theirs until we both submit. Then there is no further feedback on the portal. This means that neither of us are able to respond to each other’s feedback - and often I am left feeling misunderstood and projects feeling unresolved.”

2nd year UG Animation

“When starting new projects it’s a help to go back and see areas that could have been weak that need improvement and constructive ways the tutors have suggested doing this. However, it’s hard to know if the tutors read the students feedback on projects/their own work, meaning it’s not a ‘dialogue’ as such, but rather a one-directional stream of information.”

3rd year UG Fashion

Similarly, although the online delivery of project briefs was generally praised (for its convenience and accessibility), students were critical of the reduced opportunity to ask questions, leading to possible misunderstandings in their articulation of briefs. In addition, there were multiple comments concerning the lateness of staff in releasing feedback and marks online, and the inconsistent quality of feedback across projects, which could also be a contributory factor to students feeling they were not sufficiently engaged in a dialogue.

“Sometimes you just get marks and then a brief comment even if you have spent half an hour writing detailed answers to the self evaluation questions.”

1st year Intermedia

The language used to describe the *learning outcomes* remains an issue and when asked for ways to improve the LMS, a number of students criticised their language and commented that they should be made clearer and easier to understand:

“The descriptions of learning outcomes etc are too vague and can be easily misinterpreted.”

3rd year UG Film and TV

“The explanation for learning outcomes are very poetic and most of time need a thesaurus to interpret.”

1st year UG Interior Design

“I still have no idea what all the various learning outcomes mean. The language is fairly obtuse.”

4th year UG Fashion

Following the student survey, a further set of questions were developed for a staff survey. 34 responses were received from academics, administrators and technical staff across the range of disciplines. From this early investigation into staff opinion on the portal indications are that it is an improvement on the previous system, in terms of its ease of use and efficiency. In terms of the LMS, there were concerns that providing online learning resources demotivates the students from broadening their research and seeking sources further afield.

SUMMARY AND CONCLUSIONS

Early indications are that, while positively received overall, areas for improvement are now identifiable. It is absolutely clear that within the context of the studio-based pedagogy used in art and design, students do not want any online system to replace the highly valued ‘face-to-face’ interactions with their tutors and peers. They value however the ability of the system to provide an online organisational framework (accessible 24/7) where they can create, reflect and maintain a historical record of their tutorials, feedback and assessments in addition to maintaining a digital portfolio (image and text) of their works; this is also an area that is being explored for further enhancement.

The first year of operation has provided insights to the diversity of practice and approach between students and tutors, and has for the first time captured a holistic oversight of the curriculum across the College. This has highlighted numerous examples of innovative practice in the design of projects and learning experiences, as well as inconsistencies in the quality of tutor / student interactions and supporting feedback. There is a clear benefit (to tutors) in asking students to self-evaluate and formatively grade themselves, in order to help them fully understand the meaning of learning outcomes and assessment criteria. But a significant amount of work needs to be undertaken to help students learn how to do this effectively and understand its purpose and value; interestingly, despite students indicating that they still do not fully understand what the learning outcomes mean, they nonetheless grade themselves very accurately.

From the student survey responses, the inconsistencies in practice in how tutorials are conducted confirms the view that the ‘face-to-face’ interactions and tutorial discourse needs to occur as part of the feedback process. When students receive written feedback in isolation, it is perceived as ‘comment’ on their work and not feedback. The ‘mutually constructed feedback’ model proposed satisfies the desire of students to engage directly with the process of receiving feedback, and importantly requires both the student to become part of constructing their own feedback, and the tutor to confirm the student’s understanding.

Although there are many future developments that can, and will, be made to the LMS, it is already functioning more effectively in supporting assessment and feedback than previous attempts with generic VLEs. Both the student and staff uptake and usage of the LMS and Portal overall is substantial, whereas in the past the use of VLEs as an integral

part of studio-based learning was minimal.

Without the development of digital spaces to provide a framework to support learning and assessment online, the mutually interactive model of engaging students with feedback and assessment in a studio-based pedagogy would be logistically (and arguably financially) unsustainable.

The provision of online digital spaces now provides a facilitative environment for students and staff to engage effectively in developing meaningful feedback with mutual responsibility and with the potential to enhance and accelerate learning and understanding - watch this space!

REFERENCES

- BIGGS, J., 1996. Enhancing Teaching through Constructive Alignment. *Higher Education*, 32(3), pp. 347-364.
- BLACK, P. and WILIAM, D., 1998. Assessment and Classroom Learning *Assessment in Education: Principles, Policy & Practice*, 5(1), pp. 7 <last_page> 74.
- HATZIAPOSTOULOU, T. and PARASKAKIS, I., 2010. Enhancing the Impact of Formative Feedback on Student Learning through an Online Feedback System. *Electronic Journal of e-Learning*, 8(2), pp. 111-122.
- HORTON, I., 2007. *Creativity or Conformity? Building Cultures of Creativity in Higher Education*, 8th-10th January 2007, University of Wales Institute, Cardiff in collaboration with the Higher Education Academy.
- KOLB, D.A., 1984. *Experiential learning : experience as the source of learning and development* / David A. Kolb. Englewood Cliffs, N.J. ; London : Prentice-Hall, c1984.
- LEE, N., 2009. Project methods as the vehicle for learning in undergraduate design education: a typology. *Design Studies*, 30(5), pp. 541-560.
- NICOL, D., 2010, 2010a-last update, Principles of good assessment: theory and practice . Available: <http://ewds.strath.ac.uk/public/reap07/nicol-web/REAPConference07Nicol.html> [8/19/2011, 2011].
- NICOL, D., 2010b. From monologue to dialogue: improving written feedback processes in mass higher education. *Assessment & Evaluation in Higher Education*, 35(5), pp. 501-517.
- NICOL, D.J. and MACFARLANE-DICK, D., 2006. Formative assessment and self-regulated learning: a model and seven principles of good feedback practice. *Studies in Higher Education*, 31(2), pp. 199-218.
- RUST, C., O'DONOVAN, B. and PRICE, M., 2005. A Social Constructivist Assessment Process Model: How the Research Literature Shows Us This Could Be Best Practice. *Assessment and Evaluation in Higher Education*, 30(3), pp. 231-240.
- VAUGHAN, D. and YORKE, M., 2009, 2009-last update, "I can't believe it's not better": The Paradox of NSS scores for Art & Design . Available: http://www.heacademy.ac.uk/resources/detail/evidencenet/I_cant_believe_its_not_better [8/11/2011, 2011].
- WATKINS, D., DAHLIN, B. and EKHOLM, M., 2005. Awareness of the backwash effect of assessment: A phenomenographic study of the views of Hong Kong and Swedish lecturers *Instructional Science*, 33(4), pp. 283 <last_page> 309.